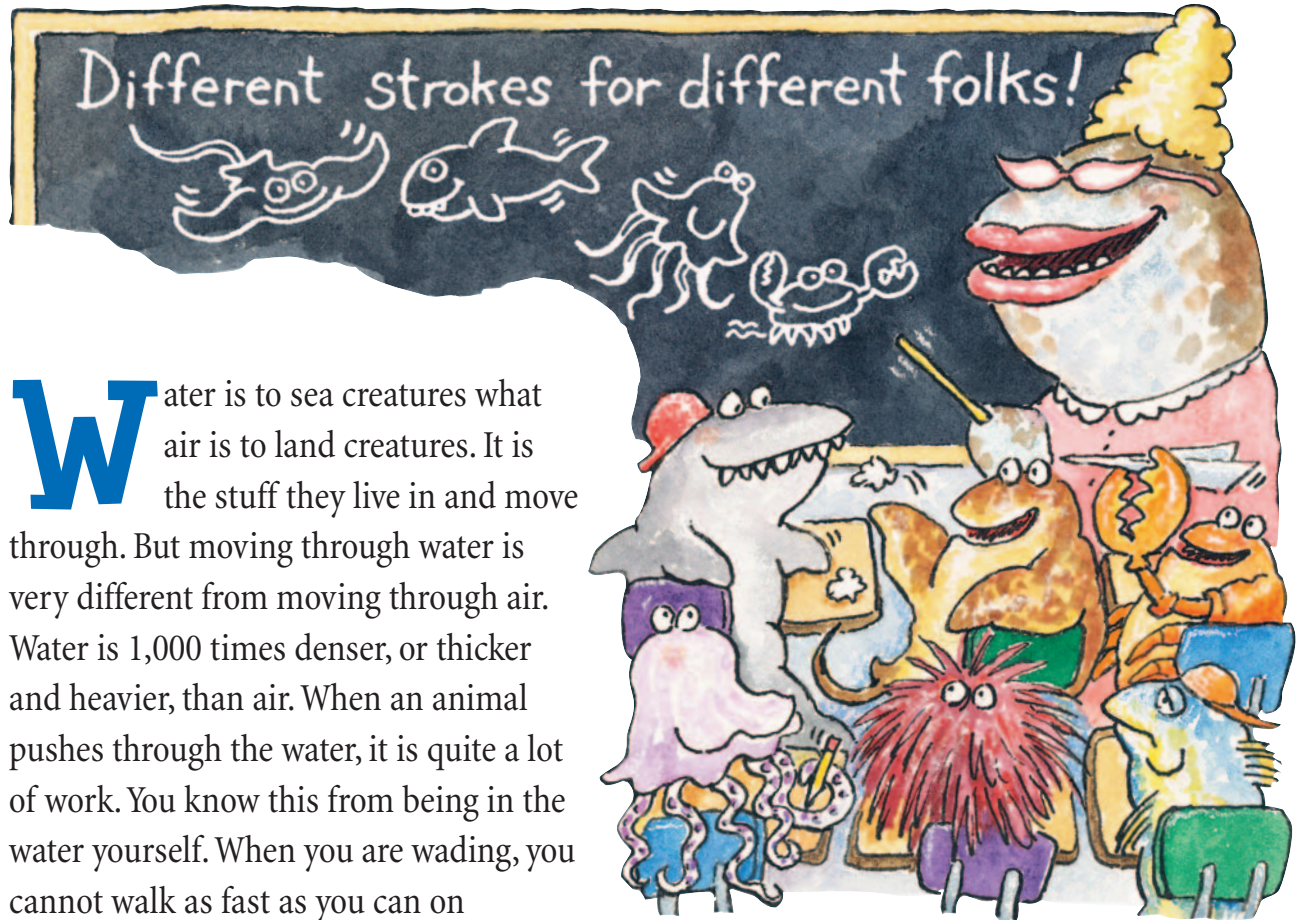


SWIM SCHOOL



Water is to sea creatures what air is to land creatures. It is the stuff they live in and move through. But moving through water is very different from moving through air. Water is 1,000 times denser, or thicker and heavier, than air. When an animal pushes through the water, it is quite a lot of work. You know this from being in the water yourself. When you are wading, you cannot walk as fast as you can on the beach.

But a sailfish swimming through the water can reach speeds over 65 miles per hour—as fast as a cheetah can run. And other ocean creatures, such as sea turtles, travel hundreds of miles or more on their migrations. Sea creatures move through water in all directions, too—forward, sideways, and up and down. That takes a lot of steering that we, walking on a flat surface, never experience.

So, how do animals that live in the vast oceans manage to get around? Different kinds of animals have developed different adaptations for getting around in the water. All animals adapt to their environments. Wriggling, flapping, and jetting are just some of the different ways that sea creatures move through the water and adjust to living in the ocean. It's different strokes for different folks.



Wriggling

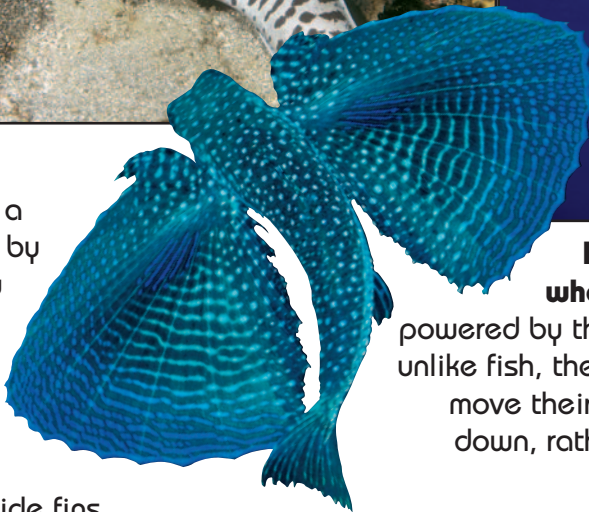
Most fish wriggle through the water, moving their bodies from side to side and wagging their tails to push themselves forward. They use their fins to brake and to steer.



Eels really wriggle. But they don't have tail fins, so they must thrust their whole bodies from side to side.



Flying fish get a "running" start by swimming very fast, flicking their tails rapidly. Then they jump out of the water, spread their wide fins, and glide through the air.



Dolphins and whales are also powered by their tails. But unlike fish, these mammals move their tails up and down, rather than from side to side.

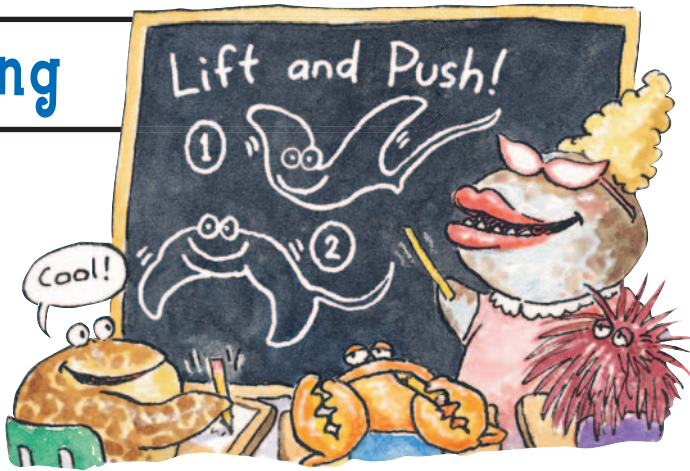


Sharks are fast, powerful hunters that use their muscular tails to push their bodies forward. Their stiff pectoral fins, the ones closest to their heads, stick out like the wings of an airplane. They help to lift the shark in the water, like wings lift an airplane into the air. And like airplanes, sharks need to keep moving, or they will sink.



Flapping

Not everything in the sea wriggles or wags its tail to get around.



Penguins are the birds of the sea. They don't fly in the air. Instead, they flap their flippers like wings to "fly" through the sea.



Rays are flat, diamond-shaped fish with fins so big they look like wings. The two enlarged fins together are called a disk. The ray flaps its disk to glide along, and uses its long, thin tail for steering.



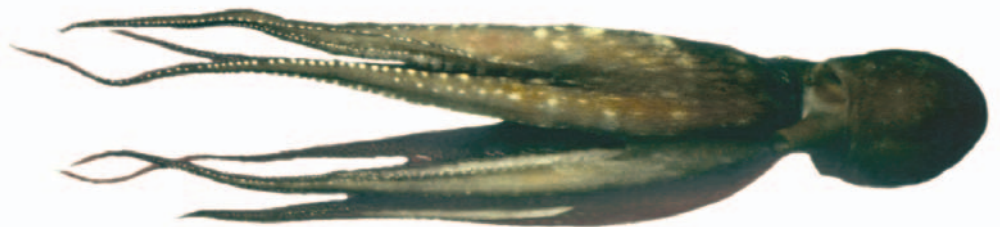
Sea turtles swim by flapping their front flippers forward and down, back and up, in a figure-eight pattern. Scientists have discovered that birds also move their wings in a figure-eight pattern. Sea turtles steer with their hind feet.

Jetting

What if you don't have tails, fins, or flippers?



Squids and **octopuses** have roundish bodies, long, soft arms, and tentacles. How do they get around? They use jet propulsion. They suck in water, then squirt it out of a funnel, called a siphon, which is located in the center of their bodies. To steer, they point their siphons in different directions.



Adapted from an article by Romana Prokopiw
Illustrated by Thor Wickstrom